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**Before the  
Federal Communications Commission  
Washington, DC 20554**

In the matter of ) WT Docket No. 98-143  
)  
)  
1998 Biennial Regulatory Review- )  
Amendment of Part 97 of the Commission's )  
the Amateur Radio Service Rules. )

**I. Introduction**

I am submitting a comment on this review by the Commission of the Amateur Radio Service (ARS) Rules to voice my support, in general terms, of the Commission's effort and to offer my input to the questions raised directly by inquiry portion of the docket. Since the objective of this review is to identify areas in the rules to simplify and eliminate obsolete practices I will be offering specific ideas on how to move beyond the initial proposals to enhance and simplify the ARS. I have incorporated my suggestions to simplify the license and examination structure, change code testing, straighten the written exams, expand phone privileges, into my responses to the Commissions inquiries.

**II Executive Summary**

- a. I fully support the discontinuance of the Novice and Technician Plus licenses.
- b. Current Novice and Technician Plus licensees should be upgraded to General.
- c. Code testing should consist of Element 1(A) only. This 5 wpm test should be either a straight text or fill in the blank type examination, with multiple choice exams discontinued. It is suggested that this element be renamed Element 1. The higher speed test Elements 1(B) and 1(C) should be discontinued.
- d. For written examinations, I am suggesting that Element 2 be continued and strengthened. Passage of this element would become a prerequisite for new applicants to qualify for admission for the General/Technician examination.
- e. To simplify and strengthen the written examination process, Elements 3(A) and 3(B) would be replaced with a new Element 3.
- f. It is recommended that Elements 4(A) and 4(B) be renumbered to Elements 4 and 5 respectfully and the content tested enhanced.
- g. With the discontinuance of new Novice licensees, the frequencies should be re-farmed so that the telephony band segments on 80, 40 and 15 meters are expanded for all HF license classes.

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### **III. Discussion**

#### **A. Discontinuing the Novice and Technician Plus licenses.**

1. I fully support the discontinuance of the issuance of new Novice examinations and licensing for all the reasons stated in the NPRM. However, the proposal to grandfather existing Novices by permitting them to continue at that license class and renew it forces the Commission to keep, maintain and enforce existing rules for that license. If the license class is to be discontinued it is important to "cut the cord" and find a way so that current licensees will not be hurt, the rules are simplified and the frequencies used by Novices re-farmed.
2. I also support the of discontinuance of new Technician Plus licenses. The NPRM proposes no change in the process of upgrade. Once again this would force the Commission to maintain and enforce rules that would be relevant to a decreasing body of licensees and keep frequency sub-bands for them. As with the Novice license this is an unnecessary burden. In addition, this is an area where the rules have become complex and confusing. With three "kinds" of Technician, caused by two levels of exams (pre- and post- 1987 Technicians), and making a code test optional for this grade of license, the Amateur community and the Commission have created significant complications for any plan to simplify the Amateur Rules.
3. Therefore, to implement the process of license class reduction to four license classes quickly and cleanly and to accomplish significant rule simplification, I respectfully suggest that Novices, Technician licensees licensed before March 21, 1987, and Technician Plus licensees be simply upgraded to General effective 90 days after implementation of this docket. The 90 day window would offer the Commission the time to update the license database and issue new licenses.
4. The Benefits would be:
  - a) The confusing variations of the Technician License would be eliminated. It would become a truly VHF+ license with simplified rules and clear definitions.
  - b) Considerable rule simplification would be accomplished, with resulting simpler enforcement.
  - c) The VE and VEC would not be burdened by extra code or theory exams by those seeking upgrade simply to continue to be licensed.
  - d) The Commission would not be burdened by added extra applications, test verification and other administrative tasks generated by those seeking to upgrade simply to continue to be licensed.
  - e) It could generate new interest in the service by these licensees.

#### **B. Code Examination**

5. The Commission has requested comment from the Amateur Community on the relevance of the current practice for code examination. This is probably the most controversial aspect of this Notice. The testing and use of Morse is so strongly integrated into the culture and tradition of Amateur Radio, that any change that might be perceived as to cause the use of Morse to diminish or disappear is very threatening. But as the Commission pointed out the use of CW in other services is being replaced by newer technologies and the Amateur Community has to accept the fact that the use of CW is going to decrease over time. Also, it is not the job of the Commission to support a given mode in the service through the testing process. It is the responsibility of the Commission to create rules and allocate frequency sub-bands that will permit the successful use of the mode. Also, the Commission is required by treaty to confirm that an applicant for a license with privileges below 30 MHz can copy by ear International Morse Code. However, it is the

responsibility Amateur Community to continually educate and demonstrate the utility and effectiveness of Morse communications to individual amateurs to keep the mode from fading away.

6. Therefore, I suggest that one code test be given to applicants and that individuals should be tested at 5 wpm. This basic Morse exam Element 1(A) would become the gateway to the HF bands. As such it should be renamed Element 1. Testing on Elements 1(B) and 1(C) and be discontinued.
7. To strengthen the Morse examination, the use of multiple choice type of code tests should be discontinued and replaced with the basic test code test that uses either straight copy or fill in the blank format. A single code test is all that is required to meet treaty and the public interest and necessity. Like a driving test where the written test might ask questions about driving on ice, the practical driving test does not test for this specialized kind of driving; this basic code test should confirm that the candidate can copy the code and extract the meaning of the message. Higher speed proficiency, as with driving on ice, will come with practice and there is no public interest or necessity served by requiring an individual to prove this increased proficiency through testing.
8. Benefits:
  - a) The rules related to medical exemptions for handicapped individuals. This has been a significant burden to VEs and the Commission that would be lifted from them.
  - b) The rules can be simplified by eliminating all regulations related to high speed testing for higher grade licenses.
  - c) VE and VEC would be relieved of the burden of creating tests, grading, and administering high speed code tests.
  - d) The VEC and Commission will be relieved of the burden of maintaining code credit records for high speed tests.

### **C. Written Examinations**

9. In this NPRM, the Commission raised a number of questions concerning the topics and criteria for the written examinations. Concerning strengthening the written exams if the code testing process is simplified, I strongly disagree with this idea. Code testing and written examinations are mutually exclusive examinations with different purposes and objectives. For code testing it is necessary to confirm that the applicant can copy code sufficiently to extract the meaning of a message. In the written exam you want to confirm that the applicant understands the rules and the theory that supports the rules, good amateur practice, and safety. The written exams do need to be strengthened, not because code requirements have been changed; but because current applicants are not sufficiently trained or tested to be knowledgeable in one or more of the topics required. This results poor success, poor operating skill, frustration and loss of interest.
10. The Amateur Community is very concerned that the testing program for all license classes is not sufficiently robust to certify that new licensees truly understand the rules and good operating practice. The use of 30 question exams for Elements 3(A) and 3(B) does not sufficiently test an applicants skill and knowledge of Amateur rules, practice, and radio theory. This is exemplified by the general feeling about the Technician class exam. The exam is too easy for the privileges earned. To many including this writer, it makes no sense that a license which permits full amateur privileges in seventeen frequency bands above 50 MHz be based on a simplified general operating examination. The current practice devalues the Technician license and promotes the perception that some how this licensee is "less of a ham" because (s)he took a simpler written test without a code test. It has not been especially successful in promoting technical exploration of UHF, SHF, or EHF bands because the study guide and the test are not robust enough to sufficiently create the

skill and knowledge required to operate successfully at these frequencies. The newcomer uses FM repeaters, gets bored and quits the service. Since the General also has access to these bands, (s)he is also not prepared to be able to be successful on these frequencies as well.

11. I think that the Commissions has an important role in Amateur testing. It should promote rules that permit the Amateur Community to create exam pools that sufficiently tests applicant's skill and knowledge of the topics required for safe, effective, and successful experimentation and communication. Therefore, the number of questions in each exam element should be defined by rule. The Commission should define in general terms the topics to be tested for each element. I think specific topics with the number of questions per topic required micro-manages the exam process too much. It limits the ability of the VECs to respond to technical and communication changes in the service. It is sufficient to describe required topics in general terms, such as Rules and Regulations, Amateur Communications Practice, and Technical topics. The rules should the define the percentage of each topic that will be included in each exam Element. This will give the VEC exam coordination committee the flexibility to create exam pools that are more reflective of the changes in the service and robust enough to challenge applicants and assure the Commission that users of the Service understand their privileges and how to operate within them..
12. I recommend that the Commission return to the standard used before March 21,1987 and have a single Element 3 for the General/Technician applicant. This Element should be a 70 question exam. The content for this new Element 3 should be sufficiently robust that the question pool be at least equivalent to the old 3(B) exam., 35% rules, 35% operating practice (15% HF, 20% VHF+), 30% Technical.
13. To further strengthen the written exam process, I propose that Element 2 be continued. It should become a basic exam of the rules, and operating practice with minimal technical questions. Passing this element would be a prerequisite entry requirement before taking Element 3. This would be a 25 question test, the test equivalent to the old Element 3(A); 45% rules, 45% operating practice, 10% technical.
14. For the Advanced Class License, Element 4(A) should be renumbered to Element 4. This test needs to be strengthened to the level of the old Element 4(B), that tests advanced level of understanding of the rules, operating practice, and technical topics. The exam should also be a 50 question test, divided into the same percentages used in Element 3.
15. For the Amateur Extra, Element 4(B) should be renumbered Element 5. This exam should be a test of advanced technical knowledge. It should be more robust that the current Element 4(B). I am suggesting that the test be a 50 question exam, 80% technical and the balance be specialized operating techniques.
16. There may be a concern that strengthening the exams to this extent, without a clear entry level license will discourage new comers, especially young people. Up to the late 1970's there were minimal training aids available to the prospective Amateur. The ARRL *License Manual* and the *Radio Amateurs Handbook* were the primary training guides available. In this environment, a basic license met a real need by offering the opportunity of learning by doing.. However, beginning in the late 1970'sand especially in the 1980's, a growing pool of training resources became available. New simpler technical manuals were published, as well as audio and video tapes, workbooks, and later interactive CD ROMs have made it easier for the newcomer, whether studying alone or in a class to grasp complex technical and operating topics. Radio clubs that offer training courses have access to complete and well planned programs to prepare prospective Amateurs. With these tools

and programs available, this writer sees minimal impediment to the new applicant with one to two years of high school education being successful in the proposed exam process.

17. Benefits:

- a) The exams are strengthened and made more relevant to the skill and knowledge level required for each license class.
- b) This enhancement of the level of training related to the examination will improve the operating skill and success of new operators.
- c) The VECs will have more flexibility to update examination and element study guides
- d) The Technician license will require the same exam as the General, improving its standing in the Amateur Community, and encouraging people to populate the VHF+ bands and stay there.

**D. Re-farming Frequencies**

18. If the Novice license is discontinued, there is an opportunity to reallocate the sub-bands to add value to other HF license classes. Therefore, I recommend the following changes to the 80, 40, and 15 meter bands to accommodate expanded radio telephony use by each HF license class. Specifically:

19. Amateur Extra:

- 75 meters-3.7-3.725 MHz.
- 40 meters-7.075-7.1 MHz.
- 15 meters-21.15-21.175 MHz.

20. Advanced and Extra:

- 75 meters-3.725-3.800 MHz.
- 40 meters-7.1-7.175 MHz.
- 15 meters-21.175-21.25 MHz.

21. General, Advanced and Extra:

- 75 meters-3.8-4.0 MHz.
- 40 meters-7.175-7.3 MHz.
- 15 meters-21.25-21.45 MHz.

22. Especially on 40 meters, the proposed expansion will allow these licensees to more effectively communicate internationally. The mainland US amateur has never had a phone allocation in the 40-meter phone segment used by Regions 1 and 3. The reason for this is partly due to the location of the Novice segment of the band and the perception by some in the amateur community that the US needs a 150 kHz wide exclusive CW/digital segment on 40 meters. I strongly disagree with that perception. There are thousands of amateurs in Regions 1 and 3 as well as in our own Region 2 that have an exclusive CW/digital sub-band as small as 25 kHz and others have a sub-band only 40 kHz wide. Some of these countries have larger Amateur populations than the US. I feel that under these circumstances, a US exclusive allocation for CW/digital modes of 75 kHz on this band is quite fair. When operating telephony on 40 meters the US operator has to operate "split" transmitting above 7.150 MHz and listening below 7.1 MHz. The out of region Amateur has to try to hear the US operator in the middle of SWBC interference. In the excitement of a contest or a large DXpedition operators sometimes forget which VFO is being used and transmit in the Region 1 segment. Aside from accidentally breaking the rules, this situation creates unnecessary interference. Creating this allocation will relieve some of this problem and improve inter-regional communication. Also, creating this allocation will be a major incentive to work and train for the

Amateur Extra class license. In addition, the rules will be simplified because special frequency allocations for US territories in Region 3 and in the Caribbean can be eliminated. Finally, any loss of CW segments for the General Class operator caused by the expansion and relocation of Extra and Advanced exclusive frequencies is made up by gains in the General class phone segments in each band

#### IV. Conclusion

23. The Commission has made a good start in trying to simplify and update the rules for the Amateur Service. However, there is much more that can be done. I have attempted to show how this might be done in the areas of licensing, examinations, and frequency allocations. My goal was not only to simplify the Rules, but also enhance the Service. By strengthening the exam process at the same time as stream lining it, I have tried to create an environment that will make the self-regulatory aspect of the service easier to perform by better educating the newcomer and the more experienced Amateur as (s)he progresses up the incentive licensing ladder.
24. It is imperative for the service to encourage the use of the VHF+ frequencies. This NPRM has offered an opportunity to accomplish this objective. By enhancing the exams and simplifying licensing as the suggested here, so that the preparation required for testing is as rigorous as for the HF candidate, the Technician License can stand on its own and not just be a transition to HF. People with VHF+ interest will have the basic skill and knowledge to successfully experiment on these frequencies.
25. The Amateur Community has been offered an opportunity to assume a greater role in the design and development of content for each license element both for study guides and for examinations. I have tried to show that with some broad guidelines from the Commission that replacing the strict and narrow rules about topics and numbers of questions, VECs and others can design and develop study guides, courses, and examinations that will make for better trained Amateurs and ultimately may lead to less enforcement problems.
26. Finally, I have tried to enhance the HF licenses by using the opportunity created by the proposed discontinuance of the Novice License to add additional telephony sub-bands for each HF license. With the increasing population expected by the proposed upgrading of Novice and Technician Plus licensees to General, the added phone privileges will be needed.

Respectfully Submitted,

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**About the Author:** I have been a licensed Amateur since 1975 and an Amateur Extra Class operator since 1978. My major amateur radio interests are CW DXing and contesting. I am a life member of the ARRL and a member of the Yankee Clipper Contest Club. From the ARRL, I have earned the Worked All States award (CW endorsement) DXCC CW and achieved Honor Roll status, as well as the 5 band DXCC award. From CQ Magazine, I have earned their WAZ CW award and their 5-band WAZ certificate. I also use VHF packet.

Professionally, I am an Instructional Designer for a worldwide manufacturer of anesthesia monitors, anesthesia machines, and information management systems. As an Instructional Designer, my responsibilities include identifying blocks to successful human performance and to design solutions to eliminate or minimize these blocks. The solutions may include modifying processes and procedures, recommending policy changes, or develop training solutions. Whatever solution is used, methods of measurement and feedback are critical in determining that the solution has improved performance.